

Notice of Allowability

Application No.

10/090,065

Examiner

Myriam Pierre

Applicant(s)

BEUTNAGEL ET AL.

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-41.
3. ☒ The drawings filed on 03/02/02 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 60/283,586.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date ____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Authorization for this examiner's amendment was given in a telephone interview with applicant's representative Henry T. Brendzel on 03/18/2005.

The application has been amended as follows:

In the Claims

In claim 1, change lines 4-11 from

"integer, each set including

a collection of unit selection parameters that characterize a unit of speech of set $E(k)$,

and a plurality of frames associated with said $E(k)$, each of said frames being represented by

a collection of model parameters, and

T-D data representing a time-domain speech signal

corresponding to said frame

to

--integer, each set $E(k)$ including

a plurality of associated frames in sequence, each of said frames being represented by

a collection of model feature parameters, and
T-D data representing a time-domain speech signal
corresponding to said frame, and
a collection of unit selection parameters which characterize the model
feature parameters of the speech frames in the set E(k)--

In claim 22, in line 3, after "entry E(i)" insert ~~the~~ E(i)--

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Allowable Subject Matter

3. Claims 1-41 are allowed with an Examiner's Amendment over the prior art of record. The following is an examiner's statement of reasons for allowance:

As to claims 1 and 22,

Campbell et al. (6,366,883) teach concatenating individual speech segments (frames) which correspond to an input phoneme sequence and minimize target and concatenation cost.

But Campbell et al. do not teach modifying and concatenating speech units wherein each speech unit comprises of a set of frames that are in sequence and best match desired speech unit feature parameters.

Dutoit et al. (5,987,413) teach modifying and concatenating speech waveforms.

But Dutoit et al. do not teach modifying and concatenating selected speech units, wherein each speech unit consists of a set of sequential frames.

Neither Campbell et al. nor Dutoit et al. singularly or in combination teach nor fairly suggest modifying and concatenating selected speech units consisting of a set of sequential frames. While modifying and concatenating individual speech frames is taught by Dutoit et al., modifying and concatenating the speech units consisting of sets of frames is not taught nor is it obvious over the prior art.

The dependent claims 2-21 and 23-41 are allowed because they further limit the independent claims or their parent claims.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The following art made of record and not relied upon is considered pertinent to applicant's disclosure Hamon (5,327,498); Savic et al. (5,327,521);

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Kang et al. (2003/0208359); Okutani et al. (2002/0051955); Kibre et al. (2002/0128841); Lambert et al. (2002/0047259); Kibre et al. (6,845,358); Okutani et al. (2001/0047259); Coorman et al. (6,665,641); Chihara (6,470,316); Su (6,330,531); and Stylianou et al. (IEEE-98).

Hamon teaches time domain concatenation of sound waveforms having appropriate prosody based on a text, using a dictionary of sound elements.

Savic et al. teach real time voice transformation by transforming signal frames from time to frequency, separating source envelope and excitation spectra, substituting the target envelope spectrum and changing the pitch.

The Okutani et al. and Okutani et al. (259) publications teach text-to-speech (TTS) synthesis using phonemes matching the prosody generated from the text.

The Kibre et al. and Kibre et al. (358) publications teach TTS matching input text with generated prosodic information to prosodic templates having pitch and duration data, for concatenating speech units.

Coorman et al. (6,665,641) teach TTS OLA.

Chihara (6,470,316) teaches TTS OLA.

Breen (6,330,538) teaches duration adjustment for TTS OLA.

Stylianou et al. teach modifying speech signal using HPN, harmonic plus noise model.

4. Any inquiry concerning this communication or earlier communications from

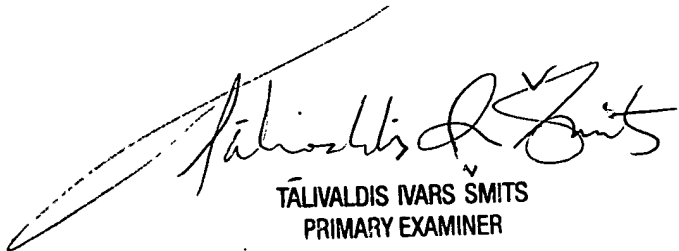
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the examiner should be directed to Myriam Pierre whose telephone number is 703-605-1196. The examiner can normally be reached on Monday – Friday from 5:30 a.m. - 2:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on 703-306-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

02/15/05



TĀLIVALDIS IVARS SMITS
PRIMARY EXAMINER